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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/749,867 | 12/31/2003 | Yan Zhou | 75622P006201 | 6324 |

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| EXAMINER | |
|---|---|
| SINGH, RAMNANDAN P | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2614 | |

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/749,867 | ZHOU, YAN | |
| | Examiner | Art Unit | |
| | Ramnandan Singh | 2614 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *Oct. 16, 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 11-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Pessl et al [Proc. of the 27th European Conf. On Solid-State Circuits, ESSCIRC 2001; Sep. 18-20, 2001, Pages 117-120].

Regarding claim 1, Pessl et al teach a subscriber line interface circuit apparatus shown in Fig. 2, comprising:

a driver (programming) combining a downstream voice signal in a voiceband range and a downstream data signal in a non-voiceband range into a common downstream signal for a subscriber line [Page 118, Section 2.1] ; and

receiver circuitry coupled to separately provide an upstream data signal and an upstream voice signal from an upstream signal carried by the subscriber line [Fig. 2; Page 117, Right column], wherein the driver and receiver circuitry reside on a same integrated circuit die (IVAX).

Claim 13 is essentially similar to claim 1 except for a metering signal. Pessl further teach transmitting metering pulses [Page 119; Section 2.3].

Regarding claim 2, Pessl et al further teach the apparatus comprising: an upstream low pass filter providing a low pass filtered upstream signal as an upstream voice signal, wherein the upstream low pass filter resides on the integrated circuit die, wherein the low pass filtering is inherent in the ADSL over POTS application for POTS operation [Fig. 1; Page 117, right column, lines 6-10; Section 2.2; Section 2.3].

Claim 17 is essentially similar to claim 2 and is rejected for the reasons stated above apropos of claim 2.

Regarding claim 3, Pessl et al further teach the apparatus comprising: a downstream low pass filter providing a low pass filtered downstream voice signal to the driver, wherein the downstream low pass filter resides on the integrated circuit die, wherein the low pass filtering is inherent in the ADSL over POTS application [Fig. 1; Page 117, right column, lines 6-10; Section 2.2; Section 2.3].

Claim 18 is essentially similar to claim 3 and is rejected for the reasons stated above apropos of claim 3.

Regarding claim 4, Pessl et al further teach the apparatus having the ADSL over POTS application, wherein the voiceband range is from approximately 300 Hz to 4 kHz is inherent in the POTS signals [Fig. 1; Page 117, right column, lines 6-10].

Claim 14 is essentially similar to claim 4 and is rejected for the reasons stated above apropos of claim 4.

Regarding claim 5, Pessl et al further teach the apparatus comprising: an upstream high pass filter providing a high pass filtered upstream signal as an upstream data signal, wherein the upstream high pass filter resides on the common integrated circuit die, wherein the high pass filtering is inherent in the ADSL over POTS application for ADSL operation [Fig. 1; Page 117, right column, lines 6-10; Section 2.2; Section 2.3].

Regarding claim 6, Pessl et al further teach the apparatus comprising: a downstream high pass filter providing a high pass filtered downstream data signal to the driver, wherein the downstream high pass filter resides on the integrated circuit die, wherein the high pass filtering is inherent in the ADSL over POTS application for ADSL operation [Fig. 1; Page 117, right column, lines 6-10; Section 2.2; Section 2.3].

Regarding claim 7, Pessl et al further teach the apparatus, wherein the driver further combines a metering signal into the downstream signal [Page 119; Section 2.3].

Regarding claim 11, Pessl et al further teach the apparatus, wherein the non-voiceband range (i.e. ADSL) is greater than 25 kHz., wherein this limitation is inherent with ADSL signal operation [Fig. 1; Page 117, right column, lines 6-10].

Claim 15 is essentially similar to claim 11 and is rejected for the reasons stated above apropos of claim 11.

Regarding claim 12, Pessl et al further teach the apparatus, wherein the downstream data signal is a discrete multi-tone encoded signal [Page 120; Left column, lines 1-7].

Claim 16 is essentially similar to claim 12 and is rejected for the reasons stated above apropos of claim 12.

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 8-9 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pessl et al as applied to claims 1 and 13 above and further in view of Booth et al [US 5,835,533].

Regarding claim 8, although Pessl et al teach providing a metering signal [Page 119; Section 2.3], they do not teach expressly a metering signal cancellation circuit.

Booth et al teach a metering signal cancellation circuit (i.e. adaptive filter) shown in Fig. 7, wherein the metering signal cancellation circuit substantially cancels any metering signal present in the upstream voice signal [Fig. 7; col. 1, lines 11-49; col. 7, lines 21-55].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Booth et al with Pessl et al in order to accommodate signals in the upstream direction so that the network can then serve for communication metering signals [Booth et al; col. 1, lines 29-35].

Claim 19 is essentially similar to claim 8 and is rejected for the reasons stated above apropos of claim 8

Regarding claim 9, Booth et al teach the apparatus, wherein the metering signal cancellation circuit further comprises a finite impulse response filter responsive to the metering signal provided to the driver circuitry [Fig. 7; col. 7, lines 21-35].

Claim 20 is essentially similar to claim 9 and is rejected for the reasons stated above apropos of claim 9.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pessl et al as applied to claim 1 above, and further in view of Hjartarson et al [US 6,295,343 B1].

Regarding claim 10, although Pessl et al teach ADSL over POTS applications [Fig. 1; Page 117, right column, lines 1-10]; they do not teach expressly

Hjartarson et al teach the apparatus, wherein the voice and data signals are weight coupled to the driver using an impedance generator (424) in combination with LPF (422), wherein the weights permit varying the ratio of the downstream voice signal to the downstream data signal [Fig. 6; col. 6, lines 7-59].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Hjartarson et al with Pessl et al in order to balance the common driver [Hjartarson et al; col. 6, lines 25-33].

***Response to Arguments***

8. Applicant's arguments filed on Sep. 11, 2006 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh
Examiner
Art Unit 2614